5-1958

A Study of Two Groups of Superior Students at the Logan Junior High School

Rudgar H. Daines

A STUDY OF TWO GROUPS OF SUPERIOR STUDENTS AT THE LOGAN JUNIOR HIGH SCHOOL

by

Rudgar H. Daines

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Education

UTAH STATE UNIVERSITY
Logan, Utah

1958

ACKNOWLEDGMENT

I wish to express appreciation to Dr. Parry Wilson, Principal of the Logan Junior High School, for permission to use the school records needed for this study. I also acknowledge the help of Mrs. Alma Lee McCowin, counselor at the school, for her help in the testing of students used in this study. Appreciation should be extended to Dr. John C. Carlisle, Dr. Heber C. Sharp, and Dr. Basil Hansen of the Utah State University Education Department, whose help and encouragement made completion of this study possible.

Rudgar H. Daines

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INTRODUCTION

Educators have long been aware of the varied needs, abilities and interests of children. They have tried to provide proper curriculum, materials, and methods to meet the wide range of abilities that exists in every classroom. Despite the attempt of the schools to provide for the particular needs of the individuals, the gifted students continue as a neglected segment in our schools. Because of other pressing educational problems, the awareness of their needs has been somewhat pushed into the background, and only through the present demand for greater leadership in our country and for the optimum use of our manpower, has this neglect been realized.

People of the United States are being brought to a realization of their responsibilities. They are becoming aware that a major objective of education in a democracy is to give each person the opportunity to develop to his maximum potential. If the student is to reach his maximum, programs should be developed in terms of meeting the particular needs of each individual. Although many excellent programs are in existence for meeting special needs of gifted, such programs could benefit from further improvement, and from a greater awareness on the part of lay and professional people. Through the efforts of our educators and the cooperation of the press, much is being done to stimulate interest in this problem of the education of the gifted. Many studies have been made suggesting ways of identifying superior students, and programs and procedures have been published to aid in providing for their needs. This research is concerned with the superior student enrolled in the Logan Junior High School.

REVIEW OF LITERATURE

Identification of gifted

Who are the gifted? This is a question that confronts every teacher when he looks over a classroom of students. Techniques and methods have been developed to aid in making proper identification of children with superior abilities. It is up to the teacher to become familiar with these tools and apply them in his work.

Various terms are used to denote the gifted child-genius, superior, brilliant, more-able, etc. All of them imply outstanding ability, with an emphasis on intellectual superiority (18).

In the Portland study for students of Exceptional Endowment (17), a broad definition was used. The talented or gifted child was one who shows consistently remarkable performance in any worthwhile line of endeavor.

The studies of gifted children conducted by Lewis M. Terman of Stanford University and Leta S. Hollingworth of Teachers College, Columbia University, utilized mental superiority as a criterion for the selection of subjects in their experimental classes. Dr. Terman used a minimum I.Q. of 140, while Professor Hollingworth required an I.Q. of 130 or above for admittance to her classes for the gifted (21).

The Education Policies Committee of the National Education Association (8) suggested that students having an I.Q. of 137 or above be classified as highly gifted, while those between 120 and 137 as moderately gifted.

It must be recognized that giftedness is a matter of degree and not of kind. No single trait possessed by gifted children is peculiar to

them alone. In defining giftedness, both quantitative and qualitative differences are a concern of educators.

The definition of giftedness as was used by Terman and Hollingworth (21) refer to intellectual ability, but DeHann and Kough (7) discuss scientific ability, social leadership, and creative thinking as types of giftedness:

> Scientific ability is probably not a separate mental ability in itself, but is compounded of ability to use numbers, a curiosity about the natural world, and the ability to use the scientific method of thinking.
>
> Social Leadership is another aspect of giftedness. It seems to be made up of the ability for individual achievement, helping the group attain its goal, and improving human relationship within the group.
>
> Creative thinking is still another important aspect of giftedness. Like scientific ability, it is complex and made up of the ability to recognize problems, flexibility in thinking, and the ability to find new uses for old objects and materials.

Scheifele (18) also regards giftedness as including more than intellectual ability.

> Gifted children . . . include those with special talents in mechanics, science, the arts, social relations, and creative achievement.

Witty and others (21) in discussing the concept of giftedness mentions various factors that enter into the definition of giftedness.

> Giftedness may show itself in the possession of a high level of general intelligence as measured by traditional tests, or it may be characterized by special abilities of a high order which are not necessarily associated with a high intelligence quotient. In any program concerned with the identification of gifted children, therefore, it is important to develop methods of detecting individuals of high intellectual ability as well as those who exhibit special gifts in such areas as the arts, music, mechanics, science, social relations, leadership, and organization.

The teacher in the identification process

Another important and useful guide in determining the relative ability of students is the estimate that comes from teacher observation. It must be recognized, however, that the teachers' judgments with respect to the child's ability is frequently dependent upon appearance, etc., and the chances are that the child may be overrated or underrated. One teacher may rate a student as being highly intelligent while another may classify him as being mediocre.

The Education Policy Commission (8) points out that:

> Some teachers overrate the intelligence of children who are neat, pretty, obedient, friendly, or talkative: whereas, the child who is independent of his thought or behavior or asks embarrassing questions may antagonize his teachers, and be underrated. This curiosity and originality are characteristics of superior intelligence.

The Education Policy Commission (8) further states:

> When a teacher is observing students, he must be aware that there is a difference between school achievement and intelligence, and that they should not be confused with each other. Achievement in school work is closely related to general intelligence but is not identical with it. Achievement results from a combination of factors, of which general intelligence is only one. Other factors contributing to achievement include general maturity, motivation, diligence, and the efficiency of study habits.

Ways of identifying the gifted

How can the gifted be identified? In answer to this question the Metropolitan School Study Council (13) has given us helpful suggestions.

> In general there are three ways in which a gifted child can be identified, 1- Teacher observation, 2- Standardized tests, and 3- School records. While no one procedure is sufficient in itself, all three are effective when used in combination.

The Metropolitan Study Council further points out certain characteristics of gifted children selected from various research studies

in the area and offers the following list of characteristics as a guide for teacher observation (13).

> Intellectually gifted children, when compared with children in general, frequently demonstrate the following mental characteristics:
>
> 1- greater ability to make logical associations
> 2- longer attention span
> 3- greater originality in self-expression
> 4- more initiative
> 5- evidence of the power to generalize to a higher degree
> 6- deeper and more varied interests
> 7- vocabulary in excess of age level
> 8- greater degree of inquiring curiosity
> 9- greater ability to follow relatively complex directions
> 10- more reading in more areas for informational purposes
>
> In comparison with children in general, intellectually gifted children often give evidence of the following emotional characteristics:
>
> 1- greater degree of social adjustment
> 2- superior mental health
> 3- greater maturity in character development
> 4- more self-reliance
> 5- preference for older companions
> 6- giving way to boredom when confronted with repetition
> 7- more critical viewpoint of self and others
> 8- greater value for adult approval
>
> When intellectually gifted children are compared with children in general of their own age group, they are found to have the following physical characteristics:
>
> 1- taller than average for their age
> 2- stronger than their age group
> 3- healthier
> 4- more mature physically than their peers
> 5- better coordinated physically

Instruments used in identification

As an identification procedure, it is well for us to use and study Standardized group tests of intelligence and achievement. No claim can be made that these tests will identify every gifted child in a school population, yet they are most useful in understanding the child.

The Education Policies Commission (8) points out that there are certain limitations to intelligence tests and the use of them.

> For one thing the words and concepts used in the test may be a barrier to clear communication. . . . Children whose cultural background is quite different to that of the test maker . . . may have difficulty in dealing with many test items because the words used or situations described are unfamiliar to them.
>
> Some individuals may do poorly because of physical illness or emotional blocks. Errors of measurement from this source can often be identified in a personal interview between the child and examiner.

The cumulative folder is an important source of information for identifying gifted children. It often contains information concerning the child's pre-school development, and a record of his school history, class grades, health record, extra-curricular activities, and standardized test scores.

Some commonly used group tests for determining the intelligence quotient of an individual are those published by the California Test Bureau, and the Science Research Associates.

California Test of Mental Maturity. The California Test Bureau devised a group test known as the California Test of Mental Maturity, and in 1957 a revised and complete work was published. They also published one known as the California Short-Form Test of Mental Maturity, which is a part of the larger parent test. The mental tests are instruments for appraising mental development or mental capacity, and attempts to reveal information that is basic to any interpretation of present functioning and the potential of children. By means of carefully selected and validated items, the tests sample the areas of spatial relationships, logical reasoning, numerical reasoning, and verbal concepts. These data are expressed in two summary

scores, language and non-language, together with the four factor scores. Six levels of this test have been made available to accommodate the entire range of school grades. Reliability coefficients for the whole test range from .92 to .95, and part-score reliability coefficients range from .81 to .95. Validity is defended in terms of high correlation with the Stanford-Binet, but the exact coefficient is not stated (4).

S.R.A. Primary Abilities Test. The S.R.A. Primary Abilities is a battery of mental ability tests based on the primary mental abilities theory and research. The abilities measured are Verbal meaning, Space, Reasoning, Perception, Number, Word-fluency, Memory, and Motor. These different abilities are relatively independent from each other. Pupils high in one ability are not of a necessity high in another. Separate scores are obtained on each one which provide additional information about the capacity of each child, and the total score means just about the same as an I.Q. or general intelligence score.

Series of comparable S.R.A. Primary Mental Abilities tests have been devised to test children at different age levels, ages 5-7, 7-11, and 11-17. Each one has been specifically constructed and pointed to the age level tested. A profile of the scores on the ability tests can be drawn for each child. Norms have been provided to aid in constructing the profile graph, and are expressed for each area tested. A reliability coefficient has been computed for each section of this ranging from .794 on Figure-grouping to .950 on Verbal-meaning, with a total score reliability of .953. The validation of the P.M.A. tests has been limited principally to an analysis of their factorial validity. No factorial validities, though, are reported for any of the S.R.A. Primary

Abilities test forms at any age level (4).

Differential Aptitude Tests. The Differential Aptitude Tests, published by the Psychological Corporation, were developed to provide an integrated, scientific and standardized procedure for measuring the abilities of boys and girls in grades eight through twelve. The tests were designed to meet the needs of guidance counselors and consulting psychologists, and measures those aptitudes which lend themselves most readily to interpretation and application. Included in this battery are the following: Verbal Reasoning, Numerical Ability, Abstract Reasoning, Space Relations, Mechanical Reasoning, Clerical Speed and Accuracy, and Language Usage.

Reliability coefficients determined by a split-half technique for the seven power tests are provided for each form of each test separately for the two sexes, and for grades 8 to 12, inclusive. These coefficients range from .86 to .93. Many studies have been made on the validity of the D.A.T. From these studies validity coefficients have been determined for both boys and girls, and for each of the academic studies. They have a coefficient range extending from .19 to .70. Figures and tables showing these validity coefficients can be found in the D.A.T. manual on pages 36 to 57.

Separate norms have been provided for boys and girls and information is given explaining the method for plotting the individual report form. Graphic summaries of the validity coefficients of the aptitude tests are provided for the course grades. This is to aid one in making useful interpretation of the test results.

Iowa Every-Pupil Achievement Battery. The Iowa Every-Pupil Achievement Battery is one that has been most commonly used in the intermediate

grades of the Logan Public Schools for testing achievement of pupils. The Stanford Achievement, and the Cooperative Achievement Battery, have also been used, but in this study the Iowa Every-Pupil Battery was used for comparative measurement.

The Iowa Every-Pupil Achievement tests were designed to measure and evaluate the pupil's functional mastery of a wide variety of critical skills involved in reading, work study, language usage, and arithmetic. They are recommended for use in individual diagnosis. Four forms of the complete batteries are currently provided: forms L, M, N, and O. Since all forms of each test are directly comparable, it is possible for one who is interested in a continuous testing program to give the tests annually for eight years without ever repeating the same test.

In using these tests for diagnostic purposes, provisions have been made in the Examiner's manual for an item-by-item classification of the special skills tested. They have made these tables sufficiently all-inclusive so that they can be used in determining certain aspects of the pupil's development and the whole instructional program. They also include suggestions for remedial teaching.

Extensive Norms have been provided. For the evaluation of individual achievement there are grade norms, percentile norms within the grade, age-at-grade norms, and chronological age norms. Besides these there are special norms of school averages, which makes it possible to evaluate the average score made by a class against norms established specifically for such averages, rather than against norms of individual pupil achievement (4).

Programs and studies related to the gifted

It is recognized that many communities of our country are conducting

studies and developing programs for caring for gifted. Two recently conducted studies are reviewed because of their completeness and adaptability.

Cooperative program for students of exceptional endowment. A study was jointly undertaken by the Portland Public Schools and Reed College for the purpose of studying the problem of the exceptional child in the Portland schools. The essential features of their program were: (17)

> A- Provision for many kinds of unusual ability so that the traits and talents selected for identification and for development shall not be limited to general intelligence as currently tested, and shall include creative, intellectual, artistic capacities, and the emotional and moral qualities necessary for effective use of these capacities.
>
> B- Experimentation with methods and materials of instruction for groups and individuals that will challenge and develop unusual abilities of various kinds, and to this end the encouragement and training of good teachers.
>
> C- Coordination of the teaching and the programs of promising students with the common curriculum of the schools and with other educational resources in the community to avoid fixed grouping, with the intention of enabling other students (and in some measure all students) to profit from the experimentation.
>
> D- Cooperation with other colleges for following up the students from the program and for working out closer articulation of college curricula with those of the high schools, and with possible acceleration at either the high school or college level or both.
>
> E- Close collaboration with a college of liberal arts and science who are in a strategic position for assisting in shaping and evaluating the program.

The program was concerned with changes that were feasible for later adoption in the regular practice of the school and other public school systems, so that its acceptance by pupils, parents, teachers, and administrators was to be measured. Another feature was to study the nature and development of personal characteristics such as ambition,

curiosity, imagination, concentration, judgment, and resourcefulness.

They recognized the importance of the teachers and teaching methods and materials in the program. A summer workshop was organized for teachers and administrators. This was supplemented by in-service classes to improve teacher competence in identifying and instructing the gifted students.

In the spring of 1952, the program was approved and financial support given. Ten elementary schools and four high schools representing varied sections of the city were included in the study. Each year over the five-year period the study has been in effect other schools have been invited to participate so that now fourteen elementary schools and eight high schools have programs for their exceptionally endowed students.

Early in the program a set of specific objectives was developed by representative administrators and teachers of the pilot schools. Since the purpose of the study was to encourage in the public schools more and better opportunities for superior children, these objectives were written in terms of how this was to be accomplished (17). These objectives were:

A- To assist teachers in identifying gifted and talented students:

1- by encouraging better use of cumulative records;

2- by developing better techniques for making teacher observations more discriminative and systematic;

3- by helping them to use and interpret standardized test results;

4- by developing methods for identification of special talent in music, art, mechanics, creativity, and leadership;

5- by developing procedures for obtaining information about students from sources outside the school;

6- by conducting studies of the characteristics of gifted and talented children and their relationship to achievement in school and later life;

7- by conducting studies of the influence of environmental factors, in and out of school, upon achievement;

8- by helping teachers to increase their understanding of the characteristics which identify gifted and talented students.

B- To assist teachers to work more effectively with gifted and talented students:

1- by studying and testing various methods of providing for superior students in the regular classroom situations;

2- by trying out and evaluating methods which provide opportunity for such students outside of the regular classroom experience;

3- by developing and selecting materials of particular value in furthering the educational development of such students;

4- by organizing workshops and in-service classes aimed at improving competence in teaching such students, and with particular reference to extending the knowledge of teachers in subjects taught;

5- by studying and evaluating ways to motivate underachieving gifted students;

6- by encouraging teachers to experiment with different procedures for enriching and improving the curriculum of superior students.

C- To develop a program which will be self-maintaining:

1- by working out administrative procedures and functions which can be incorporated into existing supervisory facilities of the Portland Public Schools;

2- by working out procedures which can be maintained at the individual school level with a minimum of external supervision;

3- by developing procedures for orienting new teachers to the program.

D- To develop procedures which will provide for continuous evaluation and self-regulation of the program.

E- To develop a program which can be incorporated into other school districts:

1- by simplifying plans, avoiding dependence on specialized teachers;

2- by making research results available in bulletin form;

3- by providing consultant service in nearby communities.

In their program for identification, they first defined the gifted as "a talented or gifted child is one who shows consistently remarkable performance in any worthwhile line of endeavor." (17) Having this definition in mind, they then proceeded to use teacher judgments, results from standard tests, and results from talent appraisals as a media for the identification of their exceptional and talented children.

Realizing that it is the public school's responsibility to provide adequately for all children of our society, a general plan of recommendations was introduced, and specific recommendation for the Portland schools evolved from the five years of experimentation with the program. The general recommendations are: (16)

1- Identification of exceptionally endowed children as early in their school career as possible.

2- Provisions for suitable educational progress for exceptionally endowed pupils in the elementary and secondary schools. Such programs may include enrichment, special courses, selective grouping, judicious acceleration, and the use of community resources.

3- Provisions for teacher education programs aimed at improving teacher competence to the instruction of exceptionally endowed children and youth.

4- Provisions for arrangements with colleges and universities for the purpose of improving the articulation of the program of the high schools with that of the colleges and of continuing follow-up studies of high school graduates as they progress through college.

5- Provisions for continuous evaluative measures to determine the effectiveness of special provisions should be established.

A review of the specific recommendation of the Liaison Committee of the Cooperative Program for Students of Exceptional Endowment is reported on pages 3-14 of the Portland study. These recommendations have come as a result of the extensive programming and experimentation in the Portland, Oregon, Public Schools.

The Quincy, Illinois, Study as reported by Science Research Associates. The Youth Development Commission of Quincy, Illinois, in 1951 started a project to discover and help children who had special abilities or special handicaps. They asked the University of Chicago to assist in conducting the Community Youth Development Program over a ten-year period.

> The purpose of the program was to test the general proposition that communities can more adequately help children develop their abilities, can help to reduce unhappiness and delinquency, and in general can do a great deal to help children grow into happy, constructive adults. (7)

The University provided four technical advisors who had special competence in studying and working with children, while the community youth service provided schools, Boy and Girl Scouts, church youth clubs, YMCA, YWCA, juvenile courts, health facilities, etc.

The four University staff members went to Quincy to help the community find out how to do the job and to make a record of how it was done. During the first two years of the project a large part of the time was spent devising methods of identifying the children who needed help. These methods were then put to use in the Quincy schools, and a record was made of them. As the study progressed, it was found needful

for the development of a simple, convenient manual which could be used by teachers to help identify and help the children who were specially endowed intellectually, or who possessed disabilities. Out of this came the Teacher's Guide Hand Book Volumes I and II, authored by Robert F. DeHann and Jack Kough and published by the Science Research Associates, Inc. Volume I is devoted to the problem of identifying students with special needs, while Volume II is a program for helping students with special needs, and furnishes the teachers with specific suggestions as to what is to be done after the children have been identified (7, 11).

STATEMENT OF THE HYPOTHESIS AND THE PROBLEM

This study was designed to investigate the superior students of the Logan Junior High School and to appraise the adequacy of the program for identifying the superior students, and determining whether or not the present system was meeting their needs.

Whenever the superior student is studied, the problems and areas for comparison are almost limitless; therefore, in this study comparisons will be made on the Differential Aptitude Test scores, selection of elective courses, analysis of Iowa Every-Pupil Test scores, and a report of grades earned for the first three quarters of the current school year.

The purpose of this research is to find an answer to these questions as they pertain to the superior student of the eighth and ninth grades in the Logan Junior High School:

1- Are the superior students of the Junior High School being neglected?

2- Does the program provided for superior children meet their needs?

3- What is the effect of current practices on the academic growth of superior students?

4- Has the rate of growth of the superior students during the Junior High School period of their education been consistent with their growth during their elementary experience?

PROCEDURE

Twenty-nine eighth and twenty-eight ninth grade students were selected from the eighth and ninth grades of the Logan Junior High School as superior. They were identified on the basis of an intelligence quotient of 120 or above. The Differential Aptitude Tests and class grades were used to support information from the I.Q. tests. Where inconcistencies occurred, a Stanford-Binet Test was given.

The differential aptitude test is given to all children in the Logan Junior High School at the eighth grade level. This test appraises the areas of Verbal Reasoning, Numerical Ability, Abstract Reasoning, Space Relations, Mechanical Reasoning, Speed and Accuracy, Spelling, and Language Usage. A study was made of these scores to aid in further identification of the superior group.

An analysis of the registration in the ninth grade was made to determine what proportion and to what extent the superior children participated in the elective curriculum offering. Evaluation of the superior children by the teachers of these classes was noted in grades received for the three quarters of the 1957-58 school year.

The Iowa Every-Pupil Achievement Battery was given to the pupils in the Logan Elementary Schools at the end of their sixth grade. This Battery tested their achievement in Basic Reading Skills, Basic Work Study Skills, Basic Language Skills, and Basic Arithmetic Skills. From these a grade placement was established showing the growth in achievement in each of these areas. The Iowa Every-Pupil Achievement Tests were again given to the fifty-six gifted students and from the scores

a grade placement was established showing their growth of achievement. An analysis of these results will indicate areas in which superior students maintain their rate of growth and areas wherein they may not.

A comparison of superior students with their classmates in their choice of extra-curricular activities was made to determine to what extent the superior child responds to the school and community programming in this area.

Tables, figures, and statistics pertinent to the problem were employed in the analysis of the study to determine whether or not a real or chance variation occurred when the superior students' development was compared with his potential level on entrance into the Junior High School program.

ANALYSIS OF THE FINDINGS

Tables 1 and 2 are a presentation of the 56 gifted chosen from among 476 eighth and ninth grade students of the Logan Junior High School. The purpose of the factors listed in these tables was for identification of the gifted students. Each gifted student is listed by number and his intelligent quotient, chronological age, and mental age is given. These data were taken from the cumulative record of each child.

Table 1. The I.Q. scores, chronological age, and mental age placement of superior students of the eighth grade

Pupil No.	C.M.M.	S.R.A.	CA.	MA.	Pupil No.	C.M.M.	S.R.A.	CA.	MA.
1		128	13.11	17.5	14		145	12.9	18.6
2		123	13.8	16.6	15		127	13.8	17.1
3		130	14.1	17.11	16		125	14.0	17.2
4		128	13.9	17.4	17		123	14.4	17.2
5		124	13.5	16.5	18		126	13.11	17.2
6		125	13.8	16.10	19		126	14.1	17.4
7		125	12.5	15.6	20		128	14.2	17.8
8		125	14.3	17.4	21		140	14.0	19.2
9		130	13.6	17.4	22		125	14.1	17.3
10		123	14.1	16.11	23		126	14.0	17.3
11		126	14.1	17.4	24		126	13.10	17.2
12		127	13.11	17.3	25		124	13.4	16.5
13		125	13.5	16.7	26		134	13.8	17.11

Table 1. (cont.)

Pupil No.	C.M.M.	S.R.A.	CA.	MA.	Pupil No.	C.M.M.	S.R.A.	CA.	MA.
27		129	13.10	17.7	29		130	13.6	17.4
28		122	13.8	16.5					

Mean I.Q. 127.2
Mean of the CA. 13.8
Median of the CA. 13.10
Mean of the MA. 17.5
Median of the MA. 17.3

Table 2. The I.Q. scores, chronological age, and mental age placement of superior ninth grade students

Pupil No.	C.M.M.	S.R.A.	CA.	MA.	Pupil No.	C.M.M.	S.R.A.	CA.	MA.
1		129	15.2	18.8	15		129	15.0	18.6
2	127		15.1	18.4	16	122		15.1	17.7
3	127		15.2	18.4	17		127	14.5	17.8
4	126		14.11	18.0	18		144	15.1	20.9
5	140		15.1	20.3	19	129		14.6	18.1
6		134	14.6	18.9	20	126		14.9	17.11
7	127		14.8	17.11	21		129	14.4	18.0
8		128	14.6	17.11	22	132		14.8	18.7
9		132	14.7	18.8	23		130	15.3	18.11
10		130	15.3	18.11	24	128		15.2	18.6
11	121		15.0	17.4	25	124		14.7	16.11
12	130		15.1	18.9	26	132		14.10	18.10
13	125		14.8	17.8	27		124	14.10	17.8
14	120		14.11	17.2					

Mean I.Q. 129.8
Mean of the CA. 14.10
Median of the CA. 14.11
Mean of the MA. 18.4
Median of the MA. 18.4

Table 1 shows that the eighth grade superior students had a range of intelligence quotients from 122 to 145 with a mean I.Q. of 127.2, as measured by the S.R.A. Primary Mental Abilities Tests. Table 2 shows that the range of ninth grade superior students' intelligence quotients extends from 120 to 144, with a mean I.Q. of 129.8. Sixteen ninth grade children were given the California Mental Maturity Battery to determine their I.Q.'s, while the other 11 were tested with the S.R.A. Primary Abilities Tests.

Table 3. Distribution of superior children according to their chronological ages

CA. Years	CA. Years-months	Eighth grade f	Ninth grade f
15	15-11	0	12
14	14-11	11	15
13	13-11	16	0
12	12-11	2	0
		N 29	N 27
		Mean--13 yrs. 8 mo.	Mean--14 yrs. 10 mo.
		Median--13 yrs. 10 mo.	Median--14 yrs. 11 mo.

The range of the chronological ages of the superior eighth grade students was from 12 years to 14 years 11 months. The mean age was 13 years 8 months, and the median age 13 years 10 months. The range of chronological ages of the superior ninth grade students was from 14 years to 15 years 11 months. The ninth grade mean age was 14 years 10 months and the median age 14 years 11 months.

A child may enter the first grade at the beginning of the school year if his sixth birthday comes on or before October 31. If he has

moved chronologically with his group through the elementary grades, he should be approximately 11 or 12 years old at the time he enters the Junior High School, 12 or 13 years old at the eighth grade, and 13 or 14 years old by the time he reaches the ninth grade. Of the eighth grade superior children, 2 students were in the range of 12 years to 12 years 11 months, 16 students came within the range of 13 years to 13 years 11 months, and 11 students in the range of 14 years to 14 years 11 months. Of the ninth grade superior group, 15 students were in the range of 14 years to 14 years 11 months, and 12 students in the range of 15 years to 15 years 11 months. The factors presented in table 3 show that the differences in chronological ages is what one would expect for students who move normally when there has been no retardation or acceleration. The differences can be accounted for by the differences in birthdays and the school's age entrance requirement.

Table 4. Distribution of superior children according to their mental ages

MA.		Eighth grade	Ninth grade
Years	Years-months	f	f
20	20-11	0	2
19	19-11	1	0
18	19-11	1	15
17	17-11	19	9
16	16-11	7	1
15	15-11	1	0
		N 29	N 27
		Mean--17 yrs. 5 mo.	Mean--18 yrs. 4 mo.
		Median--17 yrs. 3 mo.	Median--18 yrs. 4 mo.

The range of mental ages of the superior eighth grade children was from 15 years to 19 years 11 months. They had a mean mental age of 17 years 5 months and a median mental age of 17 years 3 months. The range of mental ages of the superior ninth grade group was from 16 years to 20 years 11 months. They had a mean mental age of 18 years 4 months and a median mental age of 18 years 4 months.

The purpose of table 4 was to show the extent of acceleration in mental age that had taken place in the lives of the superior group.

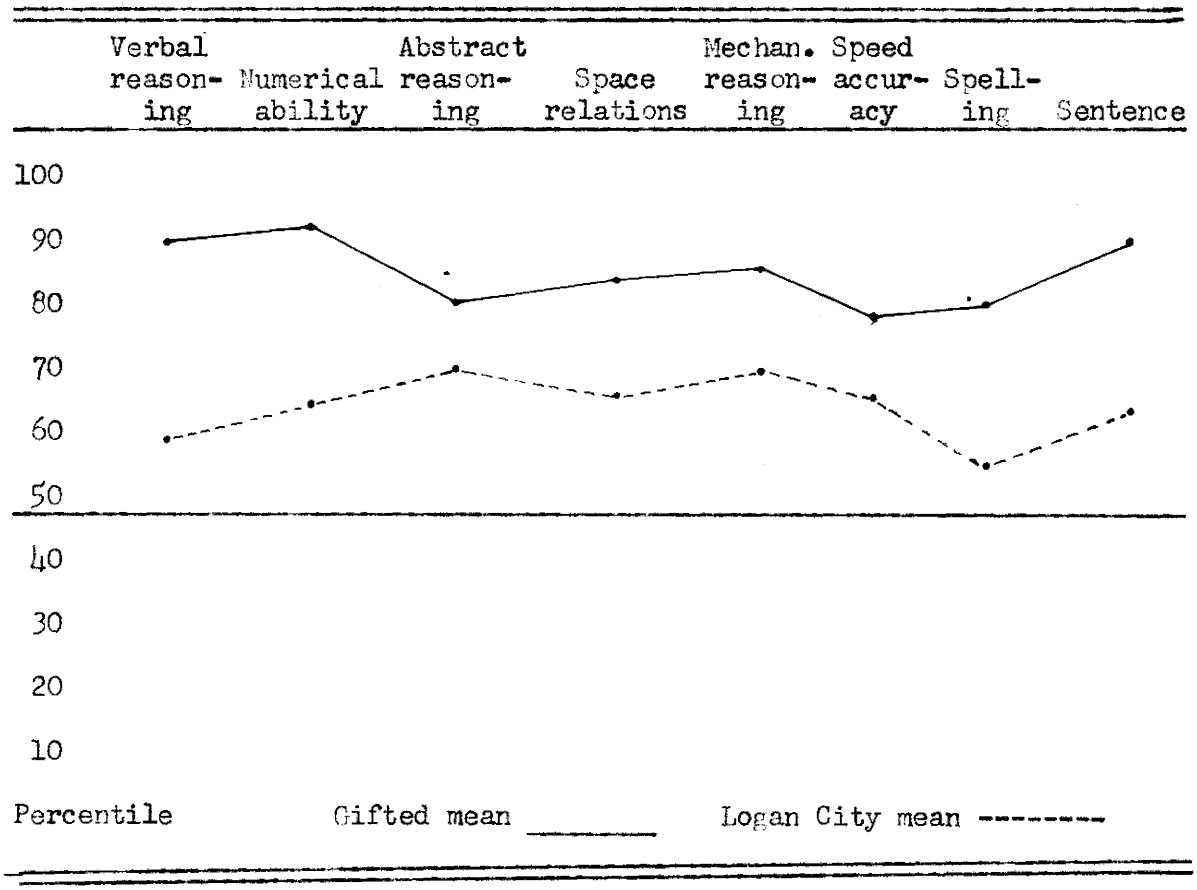

Figure 1. A comparison of the mean scores of the ninth grade superior group with all other ninth grade students in Logan City schools. The national norm is indicated.

The Differential Aptitude Tests are specifically developed to provide an integrated, scientific, and standardized procedure for measuring the abilities of boys and girls in grades eight to twelve. Realizing this, they have provided a useful tool in the process of identifying the superior students. They were given to all students in the Logan Junior High School at the eighth grade level, and the scores were recorded in the cumulative records.

According to figure 1, the mean ratings in the several areas of the Differential Aptitude Tests for the ninth grade superior children are as follows:

1. Verbal Reasoning 86.2 percent, which is 30.2 percent above the national norm and 27.4 percent above the Logan City mean.
2. Numerical Ability 87.4 percent, which is 37.4 percent above the national norm and 23.6 percent above the Logan City mean.
3. Abstract Reasoning 80.7 percent, which is 30.7 percent above the national norm and 9 percent above the Logan City mean.
4. Space Relations 82 percent, which is 32 percent above the national norm and 17 percent above the Logan City mean.
5. Mechanical Reasoning 83.9 percent, which is 33.9 percent above the national norm and 15.3 percent above the Logan City mean.
6. Speed and Accuracy 76.5 percent, which is 26.5 percent above the national norm and 11.3 percent above the Logan City mean.
7. Spelling 87.6 percent, which is 37.6 percent above the national norm and 25 percent above the Logan City mean.
8. Sentence Usage 87.6 percent, which is 37.6 percent above the national norm and 26.7 percent above the Logan City mean.

The ninth grade superior students show an average of 33.23 percent above the national norm in all areas with greater advantages existing in Verbal Reasoning, Numerical Ability, Mechanical Reasoning, and Sentence Usage. There is a greater spread between the mean of the superior group and the Logan City mean in Verbal Reasoning, Numerical Ability, Spelling, and Sentence Usage. A substantial margin exists between the national norm of these tests and the scores established by the 27 superior ninth grade children. Even the Logan City mean comes above the national norm in each area of the Aptitude battery.

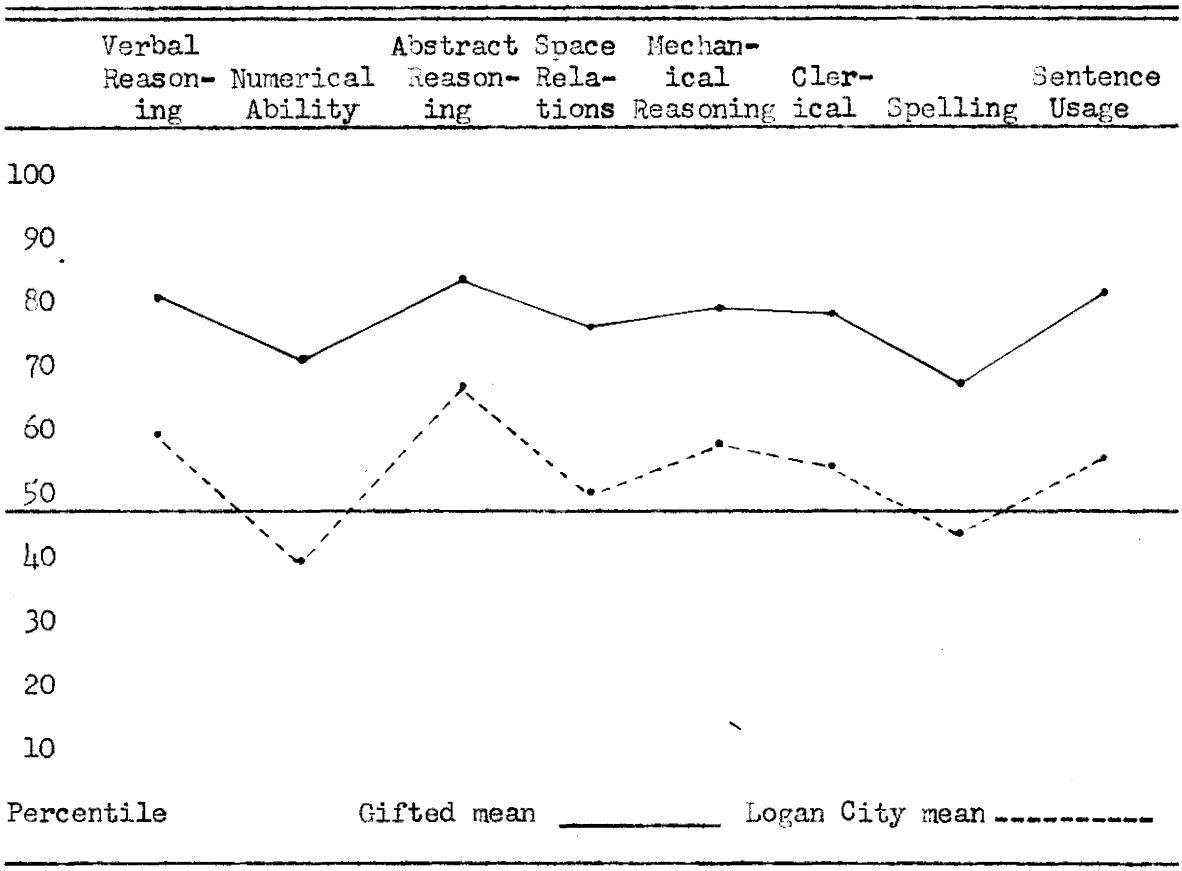

Figure 2. A comparison of the mean scores of the eighth grade superior group with all other eighth grade students in Logan City schools. The national norm is indicated.

The mean ratings in the several areas of the Differential Aptitude Tests for the eighth grade superior children are as follows:

1. Verbal Reasoning 80.4 percent, which is 30.4 percent above the national norm and 25.4 percent above the Logan City mean.
2. Numerical Ability 72.3 percent, which is 22.3 percent above the national norm and 32.3 percent above the Logan City mean.
3. Abstract Reasoning 84.7 percent, which is 34.7 percent above the national norm and 18.3 percent above the Logan City mean.
4. Space Relations 77.6 percent, which is 27.6 percent above the national norm and 22.3 percent above the Logan City mean.
5. Mechanical Reasoning 79.1 percent, which is 29.1 percent above the national norm and 8.2 percent above the Logan City mean.
6. Clerical or Speed and Accuracy 78 percent, which is 28 percent above the national norm and 8.4 percent above the Logan City mean.
7. Spelling 68.1 percent, which is 18.1 percent above the national norm and 19.1 percent above the Logan City mean.
8. Sentence Usage 81.7 percent, which is 31.7 percent above the national norm and 22.9 percent above the Logan City mean.

The eighth grade superior students rate high in all areas with greatest differences in Verbal Reasoning, Abstract Reasoning, and Sentence Usage, and lowest in Numerical Ability and Spelling. However, there is a large spread between the mean of the superior group and the mean of all other eighth grade students of the Logan Junior High School. It should also be noted that the Logan City mean falls below the national norm in Numerical Ability and Spelling, but in the other areas, the mean is above the norm.

Table 4. The required and elective curriculum of superior ninth grade students for the year 1957-58 with teacher evaluation for the first three quarters of the current school year

	Required			Elective curriculum												
Pupil number	English	Social studies	Physical education	Algebra	Biology	Latin	Speech	Journalism	Industrial arts	Homemaking	Band	Orchestra	Vocal	Art	Crafts	Old Testament
1	B	B	B	B	B						B					A
2	A	B	C	C				A		B			B			B
3	B	A	B	C		B						A			B	B
4	C	B	C	B	B							B		B		C
5	A	A	A	A	A			A							A	A
6	A	A	B	A								B	A			A
7	B	B	B	B	C								B			B
8	A	A	B	A						B		B	B			B
9	A	A	A	A	A				A							A
10	A	A	B	A			A	A					A			A
11	B	A	C	B			B			A						A
12	B	B	B	B		A		A					A			A
13	A	A	B	A								B		B		A
14	B	A	B	B	A				B							B
15	A	B	A	B						B			B			A
16	B	B	B	B	A		B						B			
17	A	A	B	A	A				A				B			B
18	B	B	A	B	A											B
19	C	D	C	D	B				B						B	B
20	A	A	B	A	A	A		A								

Table 5. (cont.)

	Required			Elective curriculum													
Pupil number	English	Social studies	Physical education	Algebra	Biology	Latin	Speech	Journalism	Industrial arts	Home making	Band	Orchestra	Vocal	Art	Crafts	Old Testament
21	A	A	A	A			A	A					A			A
22	A	A	B	A	A		A	A					A			
23	A	A	A	A			A	A					A			A
24	A	A	A	B			A	B								A
25	B	B	C	C					B						B	B
26	A	A	A	A	A	A		A					A			
27	A	A	B	B			B			A			A			A
N 27																

Teacher observation and evaluation is a valuable aid in identifying the superior students. Once they are identified, teacher judgment is relied on to evaluate how well the child is working or how nearly the program is meeting his needs. Table 5 was prepared to show the curriculum offering to the ninth grade superior students, the teacher evaluation of the student's work, and the student interest and choice in the elective curriculum.

All ninth grade children were required to take English, social studies, and physical education, but there were thirteen other subjects that were offered to the students on an elective basis. These electives were: algebra, biology, Latin, speech, journalism, industrial arts (for boys), home making (for girls), band, orchestra, vocal music, art, and crafts. Children may have one period of released time for Old Testament study if they choose.

Sixteen of the 27 ninth grade superior students have received an "A" grade in English for the first three quarters of the school year 1957-58, nine received a "B" grade, while two have been given a "C" grade. In social studies seventeen were given an "A" grade, nine a "B" grade, and one student received a "D." The superior children received the following evaluation by their teachers in the third required subject, physical education. Eight received an "A," fourteen a "B," and five a "C" grade.

All 27 ninth grade superior students chose algebra from the elective field. For the first three quarters, twelve received an "A," eleven a "B," three a "C," and one a "D" grade. Thirteen of the 27, or 48.3 percent of them elected biology. Nine had been given an "A," three a "B," and one a "C" grade for the three quarters of the school

year. Only four of the 27 registered for Latin. Three were doing "A" grade work while one received a "B." Eight of the 27 gifted chose speech. Five received an "A" while three earned a "B" grade. Ten of the 27 gifted were in the journalism class. Nine were doing "A" grade work while one received a "B." Five of 14 superior boys chose industrial arts from the elective curriculum, and five of the 13 girls selected home making. Two of the boys received "A's" and three "B" grades. Two of the girls had "A's" in home making while three received "B" grades.

In the music field only one student in the superior group was studying band, while five chose orchestra, and fourteen, or more than 50 percent of the group selected vocal. Nine of the group had earned "A's" while eleven received "B" grades.

Six superior ninth grade students made a choice of art and crafts. All but one did "B" grade work in this field.

Those superior students who belonged to the L.D.S. church registered for Old Testament and were released one period each day to the L.D.S. seminary. Of these 23 students, thirteen received an "A," nine a "B," and one a "C" grade in the work.

There were 14 boys and 13 girls in the ninth grade superior group. In their elective curriculum a large proportion of the boys had a preference for biology, industrial arts, crafts, and band, while the girls chose speech, journalism, home making, and vocal music. In their choice of algebra, Latin, orchestra, and Old Testament, the superior boys and girls were distributed about equally.

A comparison between the superior group and all other ninth grade students in the elective curriculum was made. It was expected that a

greater percentage of the gifted preferred the academic subjects while the average student selected the non-academic or mechanical subjects.

Table 6 shows the comparison of superior and all other ninth grade students in the percentage of choice within the elective field.

Table 6. Comparison of superior and all other ninth grade students in percentage of choice within the elective curriculum for 1957-58

Elective curriculum	Algebra	Biology	Latin	Speech	Journalism	Industrial arts	Home making	Band	Orchestra	Vocal music	Art	Crafts	Old Testament
Number of gifted	27	13	4	8	10	5	5	1	5	14	2	4	24
% of choice of gifted	100	48	14.8	29.6	37	35.7	38.5	33.7	18.5	51.8	7.4	14.8	85
Number of all others N-230	143	117	18	58	14	87	80	31	9	139	32	30	204
% of all others	62.1	50.8	7.8	25.2	6	69	67.2	13.9	3.9	60.4	13.8	13	88.7

One hundred percent of the superior ninth grade students chose algebra while only 143, or 62.1 percent, of all others made this choice. Latin was the preference of 14.8 percent of the superior group, where only 7.8 percent of all other ninth grade students made this choice. Journalism was the preference of a large segment of the superior group.

Thirty-seven percent of the 27 superior students were in that class as compared to 6 percent of all others. There were 18.5 percent of this group who elected orchestra in comparison to 3.9 percent of all other ninth grade children.

In comparing the superior with all other ninth grade students, the superior students had a slight percentage advantage in speech and crafts, and a disadvantage in biology, vocal music, and Old Testament. The difference in all of them was so small that differences were not significant.

All other ninth grade students had a large percentage advantage over the superior group in their choice of industrial arts, home making, band, and art. There were 69 percent of all others as compared to 35.7 percent of the gifted who had chosen industrial arts, 67.2 percent of all others as compared to 38.5 percent of gifted in home making, 13.9 percent of all others as compared to 3.7 percent of the gifted in band, and 13.8 percent of all others as compared to 7.4 percent of the gifted in art.

Another phase of this study has been to discover whether the program offering at the Logan Junior High School was meeting the needs of its superior students. In order to ascertain this, the Iowa Every-Pupil Achievement test was given to the 56 superior students. By comparing the scores obtained from this test with the scores of a similar test that was given to the students previously, it was possible to measure the rate of growth, and determine whether their development while at the Logan Junior High School had been consistent with the growth that took place through their elementary experience.

The areas tested by the Iowa Every-Pupil Achievement Tests were Basic Reading Skills, Basic Work Study Skills, Basic Language Skills, and Basic Arithmetic Skills. They were designed to measure and evaluate the pupil's functional mastery of a wide variety of critical skills in each of the above areas.

Tables 7, 8, 9, and 10 had been constructed to show a distributive comparison of the Grade Level Scores as revealed by these Iowa Every-Pupil Achievement Tests taken by the eighth grade superior students in 1956 and repeated in 1958, and for the ninth grade superior group taken in 1955 and repeated in 1958.

Table 7. A comparison of the 1955-56 and 1958 grade level scores in Basic Reading Skills of superior students on the Iowa Every-Pupil Achievement Tests

Grade level		Eighth grade		Ninth grade	
		1956	1958	1955	1958
Grade	Grade and month	f	f	f	f
12	12.9	0	5	0	9
11	11.9	1	7	7	12
10	10.9	5	10	7	5
9	9.9	8	6	6	1
8	8.9	7	1	3	0
7	7.9	7	0	4	0
		N 28	N 29	N 27	N 27
Mean		8 grades 8 mo.	10 gr. 7 mo.	9 gr. 7 mo.	11 gr. 5 mo.
Median		8 grades 9 mo.	10 gr. 7 mo.	9 gr. 9 mo.	11 gr. 6 mo.

Table 7 shows that in 1956 the eighth grade superior students had a range in the Grade Level Reading Skill Scores from seventh grade to eleventh grade nine months, while the 1958 test revealed a range from eighth grade to twelfth grade nine months. In 1956 the grade mean was 8 grades 8 months and the median 8 grades 9 months, as compared with the 1958 test that showed a mean of 10 grades 7 months and a median of 10 grades 7 months. This revealed a mean growth of 1 grade 9 months and a median growth of 1 grade 8 months for the 1.7 years the eighth grade superior children had been at the Logan Junior High School.

This table further revealed what was happening with ninth grade superior students in Basic Reading Skills. In 1955 they had a range from seventh grade to twelfth grade nine months, with a mean of 9 grades 7 months and a median of 9 grades 9 months. The test repeated in 1958 gave a range from ninth grade to twelfth grade nine months, with a mean grade of 11 grades 9 months, and a median of 11 grades 6 months. For the 2.7 years the ninth grade superior group had been at the Logan Junior High School, this showed mean growth of 1 grade 7 months.

Table 8. A comparison of the 1955-56 and 1958 grade level scores in Basic Work Study Skills of superior students on the Iowa Every-Pupil Achievement Tests

Grade level		Eighth grade		Ninth grade	
		1956	1958	1955	1958
Grade	Grade and month	f	f	f	f
11	11.9	2	5	0	12
10	10.9	3	13	6	12
9	9.9	9	10	6	3
8	8.9	7	0	8	0
7	7.9	5	1	4	0
6	6.9	1	0	3	0
		N 27	N 29	N 27	N 27
Mean		8 grades 8 mo.	10 gr. 1 mo.	8 gr. 5 mo.	10 gr. 7 mo.
Median		8 grades 9 mo.	10 gr. 2 mo.	8 gr. 7 mo.	10 gr. 8 mo.

Table 8 indicates that in 1956 the eighth grade superior group had a range in Grade Level Scores for Basic Work Study Skills from sixth grade to eleventh grade nine months, the mean being 8 grades 8 months and the median 8 grades 9 months. Compared with the repeat test in 1958, the range was from seventh grade to eleventh grade nine months, the mean being 10 grades 1 month and the median 10 grades 2 months. This showed a mean and median grade growth of 1 grade 3 months for the 1.7 years they had been in attendance at the Logan Junior High School.

The table further shows for the ninth grade superior students in 1955, a range from the sixth grade to tenth grade nine months, with a mean of 8 grades 5 months and a median of 8 grades 7 months. The test

repeated in 1958 gave them a range from ninth grade to eleventh grade nine months, with a mean of 10 grades 7 months and a median of 10 grades 8 months. This gave for the ninth grade superior group in Basic Work Study Skills a mean grade growth of 2 grades 2 months and a median growth of 2 grades 1 month for the 2.7 years they had been at the Logan Junior High School.

Table 9. A comparison of the 1955-56 and 1958 grade level scores in Basic Language Skills of superior students on the Iowa Every-Pupil Achievement Tests

Grade level		Eighth grade		Ninth grade	
		1956	1958	1955	1958
Grade	Grade and month	f	f	f	f
11	11.9	0	0	0	0
10	10.9	4	11	8	14
9	9.9	3	9	5	5
8	8.9	9	7	6	2
7	7.9	7	2	6	0
6	6.9	6	0	1	0
5	5.9	0	0	1	0
		N 29	N 29	N 27	N 27
Mean		8 grades 2 mo.	9 gr. 4 mo.	8 gr. 7 mo.	10 gr. 3 mo.
Median		8 grades 2 mo.	9 gr. 5 mo.	8 gr. 7 mo.	10 gr. 3 mo.

Table 9 revealed that in 1956 for the eighth grade superior students, Grade Level Scores for Basic Language Skills, a range from sixth grade to tenth grade nine months, with a mean and median score of 9 grades 4 months. A repeat test in 1958 gave them a range of ninth grade to

tenth grade nine months with a mean of 9 grades 4 months and a median of 9 grades 5 months. This was a mean growth for the eighth grade gifted of 1 grade 2 months and a median growth of 1 grade 3 months for the 1.7 years they had been at the Logan Junior High School.

The table gave for the ninth grade superior group in 1955 a range in Basic Language Skills, from fifth grade to tenth grade nine months, with a mean and median grade of 8 grades 7 months. In 1958 the repeat test showed that the range extended from eighth grade to eleventh grade nine months, with the mean and median grades being 10 grades 3 months. This was a mean and median grade growth of 1 grade 6 months for the ninth grade superior students for the 2.7 years at the Logan Junior High School.

Table 10. A comparison of the 1955-56 and 1958 grade level scores in Basic Arithmetic Skills of superior students on the Iowa Every-Pupil Achievement Tests

Grade level		Eighth grade		Ninth grade	
		1956	1958	1955	1958
Grade	Grade and month	f	f	f	f
11	11.9	0	6	0	13
10	10.9	5	3	3	6
9	9.9	3	8	9	5
8	8.9	11	9	9	3
7	7.9	6	3	4	0
6	6.9	3	0	2	0
		N 28	N 29	N 27	N 27
Mean		8 grades 4 mo.	9 gr. 4 mo.	8 gr. 6 mo.	10 gr. 5 mo.
Median		8 grades 4 mo.	9 gr. 3 mo.	8 gr. 7 mo.	10 gr. 8 mo.

Table 10 was a comparison of the Grade Level Scores in Basic Arithmetic Skills for superior students. It showed for the eighth grade in 1956 a range from sixth grade to tenth grade nine months, with a mean and median of 8 grades 4 months. The repeat test in 1958 gave the range from seventh grade to eleventh grade nine months, with a mean of 9 grades 4 months and a median of 9 grades 3 months. This made a mean grade growth of 1 grade and a median grade growth of 9 months for the eighth grade superior students for the 1.7 years attended at the Logan Junior High School.

Table 10 revealed for the ninth grade superior group in Basic Arithmetic Skills for 1955 a range from sixth grade to tenth grade nine months, with a mean of 8 grades 6 months and a median of 8 grades 7 months. In 1958 the repeat test gave a range from eighth grade to eleventh grade nine months, with a mean of 10 grades 5 months and a median of 10 grades 8 months. For the ninth grade superior students this made a mean grade growth of 1 grade 9 months and a median growth of 2 grades 1 month in Basic Arithmetic Skills for the 2.7 years they had been at the Logan Junior High School.

Table 11. A comparison of growth of eighth grade superior students from grades 6.9 to 8.6 as revealed by the Iowa Every-Pupil Achievement Tests, given in 1956 and repeated in 1958

	Basic Reading	Work Study Skills	Language	Arithmetic
MEAN - 1958	10.7	10.1	9.4	9.4
MEAN - 1956	8.8	8.8	8.2	8.4
Amount of growth	1.9	1.3	1.2	1.0

Table 11 gives a comparative mean growth of superior eighth grade students from grade 6.9 to grade 8.6 in Basic Skills as revealed by the Iowa Every-Pupil Achievement Tests. It shows a grade growth in Basic Reading Skills of 1.9 grades, in Work Study Skills a growth of 1.3 grades, in Language Usage Skills 1.3 grades, and in Basic Arithmetic Skills 1.0 grade. This is for 1.7 years the eighth grade superior students have been at the Logan Junior High School.

Table 12. A comparison of growth of superior ninth grade students from grade 6.9 to grade 9.6 as revealed by the Iowa Every-Pupil Achievement Tests, given in 1955 and repeated in 1958

	Basic Reading	Work Study Skills	Language	Arithmetic
MEAN - 1958	11.5	10.7	10.3	10.5
MEAN - 1955	9.7	8.5	8.7	8.6
Amount of growth	1.8	2.2	1.6	1.9

Table 12 is a portrayal of the comparative growth of superior ninth grade students from grade 6.9 to grade 9.6 as revealed by the Iowa Every-Pupil Achievement tests. It gives a grade growth in Basic Reading Skills of 1.8 grades, in Work Study Skills a growth of 2.2 grades, in Language Usage Skills 1.6 grades, and in Arithmetic Skills 1.9 grades. This is for 2.7 years the ninth grade superior students have been at the Logan Junior High School.

In order to analyze real differences in growth, the raw scores on the Iowa Every-Pupil Test were converted to standard scores. If the pupils maintained the rate of development during their years at the

Logan Junior High School there should be no differences in standard scores; that is, their position in relation to the group should remain the same. Statistical treatment of the data should reveal any differences that would be greater than expected by chance. This analysis revealed no differences other than could be ascribed to chance in the Basic Reading Skills and Basic Language Skills. In the areas of Basic Work Study Skills and Basic Arithmetic Skills, F ratios of a significant magnitude were obtained indicating that other than chance factors existed. The following table shows the results of the analysis by Variance Co-Variance method in treating data.

Table 13. F ratios and significant differences shown for the different Sub-Tests of the Iowa Every-Pupil Achievement Tests for both eighth and ninth grade superior students in the Logan Junior High School

Areas	Groups	F ratio	Level of significant
Reading	Eighth grade	1.32	Not significant
Reading	Ninth grade	1.30	Not significant
Work Study Skills	Eighth grade	6.34	.05 level of significance
Work Study Skills	Ninth grade	8.55	.01 level of significance
Language	Eighth grade	1.499	Not significant
Language	Ninth grade	3.08	Not significant
Arithmetic	Eighth grade	12.95	.001 level of significance
Arithmetic	Ninth grade	7.71	.01 level of significance

In determining the growth of the eighth and ninth grade superior students at the Logan Junior High School, table 13 shows that the growth is approximately what should be expected in the Basic Reading Skills and Basic Language Skills, but in the Basic Work Study Skills and Basic Arithmetic Skills, their growth has not been consistent with what it was in the elementary grades.

An investigation into the extracurricular activities of a student is important if his total educational environment is to be understood. Table 14 was constructed to show the total number of extracurricular activities that was participated in by each superior eighth and ninth grade student. For the ninth grade superior student the range of the number of activities extended from 2 to 13 for each student, with a mean for each one of 8.74 activities. For the eighth grade superior group the range was from 1 activity to 11 activities for each student with a mean of 4.75 activities for each one.

The ninth grade superior boys averaged 8.6 activities for each one, and the girls 9 activities for each one. The eighth grade superior boys averaged 5.2 activities while the girls' average was 3.7 for each one.

The total number of extracurricular activities participated in by all other eighth and ninth grade students were tabulated but a graph presentation is not given. The ninth grade mean activity was 5.86 activity for each student as compared to a mean of 8.74 for each superior child. The classmates of the eighth grade superior students had a mean activity for each student of 4.46 as compared with 4.75 for each superior child.

Table 14. Number of extracurricular activities participated in by each superior eighth and ninth grade student during 1957-58 school year

Ninth grade		Eighth grade	
Pupil number	Activities	Pupil number	Activities
1	8	1	4
2	11	2	8
3	6	3	7
4	9	4	4
5	10	5	2
6	6	6	2
7	7	7	7
8	6	8	4
9	5	9	6
10	11	10	2
11	9	11	1
12	12	12	2
13	13	13	6
14	10	14	6
15	3	15	1
16	10	16	5
17	10	17	7
18	10	18	4
19	9	19	5
20	6	20	5
21	13	21	3
22	7	22	7
23	12	23	2
24	2	24	8
25	13	25	5
26	12	26	4
27	8	27	3
		28	7
		29	11
MEAN 8.74		MEAN 4.75	
Mean of Boys 8.6		Mean of Boys 5.2	
Mean of Girls 9.0		Mean of Girls 3.7	

A comparison of the superior eighth and ninth grade students with their classmates was made to ascertain whether a greater proportion of the superior students were participating in the extracurricular activities. Table 15 showed a comparison in the percentage of choice of superior ninth grade children with their classmates. The superior group exceeded their classmates in 24 of the 32 extracurricular activities tabulated, while all other ninth grade students exceeded or equaled the superior students in only 8 of them.

Eight of the 32 activities reported were reserved by the school program for only ninth grade participation. This left 24 activities that eighth grade students may participate in.

Table 16 showed that eighth grade superior students had a larger percentage of participation than their classmates in 14 of the 24 extracurricular activities tabulated, while all other eighth grade children equaled or exceeded the superior group in 10 of the 24.

Table 15. Comparison of superior and all other ninth grade students in percentage of choice of extracurricular activities

Extracurricular activities	Superior	All others
Number of students reporting	27	200
	(%)	(%)
1. Studentbody officers	3.7	2.0
2. Class officers	11.0	2.5
3. Section officers	33.3	11.0
4. Projectionists	22.4	1.5
5. Basketball	22.4	19.5
6. Athletic managers	3.7	3.5
7. Emerald staff member	37.0	6.5
8. Operetta	77.7	52.0
9. Assemblies	81.5	51.5
10. Special vocal groups	55.6	55.0
11. Contests--Essays, Poetry	48.0	27.5
12. Dramatics	14.8	3.0
13. Office helpers	11.0	3.0
14. Library helpers	3.7	7.5
15. Safety patrol	22.2	11.5
16. Yearbook editors	3.7	1.0
17. School Art Committee	0	5.5
18. Electronic Club	7.2	4.0
19. Nature Club	3.7	3.5
20. Astronomy Club	7.4	2.5
21. Photography Club	14.8	2.0
22. P.A. system announcer	18.5	13.0
23. Intramurals	81.5	48.0
24. Skating lessons	3.7	9.0
25. Music lessons	48.0	27.5
26. Dancing lessons	18.5	8.5
27. Boy Scouts	94.0	89.8
28. Girl Scouts	7.6	3.8
29. Newspaper route	7.4	8.0
30. Other employment	37.0	37.0
31. Community-church	70.0	69.0
32. Church leadership	70.0	35.0

Table 16. Comparison of superior and all other eighth grade students in percentage of choice of extracurricular activities

Extracurricular activities		Superior	All others
Number of students reporting		29	170
		(%)	(%)
1.	Studentbody officer	0	1.2
2.	Class officers	3.4	2.9
3.	Section officers	6.9	12.3
4.	Projectionists*	0	0
5.	Basketball	0	5.2
6.	Athletic managers	3.4	1.7
7.	Emerald staff members*	0	0
8.	Operetta*	0	1.7
9.	Assemblies	11.1	14.1
10.	Special vocal groups	13.8	8.8
11.	Contests--Essays, Poetry	13.8	5.8
12.	Dramatics*	0	0
13.	Office helpers*	0	0
14.	Library helpers	3.4	8.1
15.	Safety patrol*	0	0
16.	Yearbook editors	0	0
17.	School Art Committee	3.4	1.2
18.	Electronic Club	13.8	4.7
19.	Nature Club	13.8	5.2
20.	Astronomy Club	13.8	4.7
21.	Photography Club*	0	0
22.	P.A. system announcer*	0	0
23.	Intramurals	72.4	57.0
24.	Skating lessons	3.4	4.7
25.	Music lessons	41.3	25.2
26.	Dancing lessons	6.9	6.4
27.	Boy Scouts	62.0	100.0
28.	Girl Scouts	3.4	3.0
29.	Newspaper route	24.1	8.2
30.	Other employment	27.6	38.2
31.	Community-church	69.0	63.5
32.	Church-leadership	62.0	34.7

* Activities reserved for ninth grade

DISCUSSION

Tables 1 and 2 (pp. 19-20) gave us a picture of the chronological ages of the superior students. The eighth grade students had a mean chronological age of 13 years 8 months and the ninth grade superior group had a mean chronological age of 14 years 10 months. Where a student enters elementary school at 6 years of age, it is expected that he will be 13 years old when he gets to the eighth grade and 14 years old when he arrives at the ninth grade. This study has shown that the superior students moved normally from grade to grade, and that there had been no acceleration because of their having been endowed intellectually.

Table 3 (p. 21) was a distribution of the superior students according to their chronological ages. It was shown that 27 of the 29 superior eighth grade students were in the range of 13 years to 14 years 11 months, and the 27 ninth grade superior group came between the ages of 14 years and 15 years 11 months. This, then, further revealed that the students had moved normally through the schools. The variation that existed in their chronological ages can be accounted for in their differences of birth dates and the school's age entrance requirements.

Another point of interest was the comparison of the mental ages of the superior group with their chronological ages. The mean mental age was 3 years 9 months in advance of the chronological age for the eighth grade gifted and 3 years 6 months for the ninth grade superior group.

Marian C. Pritchard in discussing the contribution of Leta S. Hollingworth states that "She was convinced that with this power of

general intelligence nearly all mental abilities are positively correlated, and that upon it, success in scholastic work primarily depends." (21) Here we find a group of students with mental ages superior by 3 years of the normal, yet their chronological ages showed them moving normally with the classmates.

Table 6 (p. 31) revealed that a higher percentage of the superior students selected the academic subjects algebra, Latin, speech, journalism, and orchestra, while all other ninth grade students had a higher percentage in their selection of industrial arts, home making, vocal music, art, and crafts. It is apparent, then, that these intellectually endowed students take greater interest in academic subjects than in the mechanical fields.

Table 5 (p. 27) disclosed that of the average grades issued to the ninth grade superior students for the first three terms of the 1957-58 school year, 52 percent of the grades were A's, 41 percent B's, 6 percent C's, and 1 percent D's. Of the 27 superior students, though, only 5 of them were doing straight "A" grade work. The other members of this group had grades ranging from a "D" to an "A". Where more than 50 percent of the grades were "B's" and "C's," and where only 5 of the 27 students were doing a straight "A" grade work, it is apparent that the superior students were not working to their expectancy, and better guidance and motivational procedures need to be instigated to help them achieve nearer to their potential.

In comparing the superior group with their classmates, the differential aptitude tests showed that superior students had much higher scores in all areas of abilities than did their classmates. Obviously they should be doing better school work than their classmates.

Another phase of this work was to ascertain, if possible, the rate of growth of the superior group, and to note whether it had been consistent with their growth while moving through the elementary grades.

Tables 7 to 12 (pp. 33 to 39) gave us a distributive comparison of the grade level scores of the superior eighth and ninth grade students in Basic Reading Skills, Work Study Skills, Language Skills, and Basic Arithmetic Skills. These tables showed mean and median grade growth for the eighth and ninth grade superior students, and revealed that they were not gaining as rapidly as they did previously.

Table 13 (p. 40) showed by the variance co-variance statistical method that in comparing the level of achievement of the 56 superior students at the close of their sixth grade experience with their level of achievement while at the Logan Junior High School in their Basic Reading Skills and Basic Language Skills these students maintained their rate of growth. In their Basic Work Study Skills the students failed to continue the growth rate that had been achieved during the elementary grades. Levels of significance found were .05 for the eighth grade group and .01 for the ninth grade group of superior students. In Basic Arithmetic the superior students again failed (.01 level of confidence) to maintain the superiority shown when entering the Junior High School. This reveals a significant lag in growth for these superior students in Work Study Skills and Basic Arithmetic. This research does not reveal the cause for this lag in Work Study Skills and Arithmetic Skills. The problem will need further analysis to determine what factors have been of influence in the school experiences of these superior students to cause this lag in potential growth.

Recognizing the fact that giftedness may be found anywhere, and that it manifests itself in many forms, a study of the superior group at the Logan Junior High School was undertaken to ascertain their interests in extracurricular activities. Table 14, (p. 41) was constructed to show the number of extracurricular activities each one was experiencing. This revealed a mean activity of 8.74 activities for each ninth grade superior student, and a mean activity of 4.75 activities for each eighth grade superior child. One reason for the difference in activity interest of the eighth grade superior children was because 8 of the 32 activities were reserved for ninth grade participation only, which left 24 activities for the eighth grade to choose from.

The assumption was that if the student was superior he would be able to carry on his academic work and still have time left to be involved in extracurricular activities. In comparing the ninth grade superior student with all other ninth grade children, the superior student had an average of 2.88 more extracurricular activities per student than all other ninth grade children. Comparing the eighth grade superior group with their classmates revealed a very slight difference. This study of extracurricular activities revealed that superior students were inclined to be more active in school and community activities than were their classmates.

The extracurricular activities of the school and community were more appropriate for the age of the ninth grade student than for the eighth grade child. This problem seemed to be related somewhat to the maturation differences existing between the eighth and ninth grade students, and between students within each grade group. The superior student tended to be more active than other students. They filled

their daily program with music lessons, intramural activities, etc.

The ninth grade class program was more flexible than the program for eighth grade students. It offered greater opportunities for an elective program. Because of this the ninth grade students were inclined to greater activity in the extracurricular field, and the study revealed that the ninth grade superior group of students were more active than their classmates.

SUMMARY AND CONCLUSIONS

The study of the superior students at the Logan Junior High School revealed that some formal devices had been developed that could have been used for identifying intellectually endowed children. A study of the records showed that all students had been given an achievement test and a group intelligence test prior to coming to the Junior High School. At their eighth grade level they received the Differential Aptitude Tests. The scores of these tests were recorded in the cumulative records, and were used mainly by the administration and counselors for assisting the students in making adjustments to their school program and to their associates. The only specific programming done was by a mathematics teacher and an English teacher in recommending certain students for algebra and journalism. These teachers identified the students for this work on the basis of class achievement based on teacher evaluation. Evidence was lacking of a definite organized program for identifying the superior students.

An inquiry into the elective program of the superior ninth grade children revealed that the superior child tended to make a choice of the academic subjects in preference to the more mechanical type of classes. In surveying the teacher evaluations as expressed in class grades, it was found that grades of the superior ninth grade children did not vary from the pattern of the normal student; that only five of the superior group were receiving "A" grades in their class work. These data showed that the superior students seemed to be falling below their expectancy and that better guidance and motivational procedures needed

to be organized to help them achieve nearer to their potential.

Through a study of the academic growth of the superior eighth and ninth grade students, it was shown that they had maintained consistent growth in Basic Reading Skills and Basic Language Skills, but in the areas of Basic Work Study Skills and Basic Arithmetic Skills they had not maintained this expected growth. It is evident from this study that the achievement of these students does not coincide with their potential and that some changes in their program are needed.

The study further showed that when the school or community offered extracurricular activities to the students, the superior children took advantage of these activity offerings to a greater extent than did their classmates, and that the program being provided for them in this area seemed to be meeting their needs.

This study was based on the assumption that the superior students of the Logan Junior High School were not receiving adequate attention at the present time, and that there was a lack of proper program for identifying or for meeting their needs. The data contained in the study reveal:

1- the lack of an organized identification program.

2- a need for better guidance and motivational program to help students reach their potentials.

3- that the superior students were maintaining consistent academic growth in reading skills and language skills but were lagging behind in work study skills and arithmetic skills.

4- that the gifted were inclined to greater participation in the extra-curricular activities than were their classmates.

RECOMMENDATIONS

In order to provide for the needs of the superior students at the Logan Junior High School, the following recommendations are made:

1- Develop a systematic and continuous program for the identification of children with intellectual giftedness and special talents.

A- A basic feature of this program should consist of the use of standardized tests, teacher evaluation, and school records.

B- Make the identification as early as possible in the child's school life.

2- Develop methods and materials of instruction for the intellectually gifted, and coordinate the teaching and the program of these promising students with the common curriculum of the school and other educational resources of the community. There should be a broadening of the curriculum to allow for the special needs discovered in gifted children.

3- Organize workshops and in-service training programs for the teachers aimed at improving competency in teaching gifted children, and at helping teachers become thoroughly acquainted with methods and material of instruction for the intellectually endowed.

4- Develop a program for the gifted which will be self-maintaining by working our administrative procedures and functions which can be incorporated into existing facilities of the Logan Junior High School.

5- Organize experimental programs to find that which might be most effective for working with superior children at the Logan Junior High School. These could be:

A- A special accelerated program which would allow the gifted to complete a required curriculum at the Junior High School in two years in place of the three years. Only those potential high-achievers whose physical, social, and emotional development is in harmony with their intellectual ability should be encouraged to participate in this accelerated program.

B- Develop a program for a modified ability grouping. This can take the form of special classes within the Junior High School, or special grouping within regular classrooms.

C- Develop special classroom enrichment techniques that will stimulate superior children to work to their potential abilities. An expansion and use of the Unit Method in the organization or enrichment procedure for the superior should be encouraged.

6- Enlist and utilize community resources fully in programming for the intellectually endowed students.

7- The Utah State University is in a strategic position for assisting in shaping and evaluating any program developed for meeting the needs of gifted children. Enlist the cooperative assistance of the University in developing a program for the gifted at the Logan Junior High School.

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APPENDIX

1. Summary tables showing grade level scores for the eighth and ninth grade gifted children

2. Registration instruction to ninth grade students for 1957-58 school year

3. Extracurricular activities check list

Table 17. A comparison of the grade level scores in reading for the eighth grade superior students as revealed by the Iowa Every-Pupil Achievement test for the years 1956-1958

	Comprehension		Vocabulary		Total scores	
Grade norm	6.9	8.6	6.9	8.6	6.9	8.6
Student	1956	1958	1956	1958	1956	1958
1	10.0	11.1	8.5	10.4	9.5	11.2
2	9.0	10.3	8.5	9.8	8.8	10.2
3	7.7	10.6	6.6	9.8	7.5	10.5
4	7.7	10.9	7.9	9.5	7.8	10.6
5	9.2	10.5	9.9	11.0	9.6	11.0
6	6.4	10.1	7.6	9.8	7.0	10.1
7	8.3	10.0	8.2	9.2	8.3	9.8
8	9.4	10.9	9.0	10.3	9.2	10.9
9	10.2	11.1	10.4	11.4	10.3	11.6
10	7.3	10.4	7.8	10.1	7.6	10.5
11	8.3	9.4	8.5	10.4	8.4	9.9
12	7.3	9.1	8.4	9.9	7.8	9.4
13	7.9	9.4	7.9	9.2	7.9	9.3
14	11.1	11.4	10.8	11.6	10.9	12.0
15	8.5	8.6	7.4	9.0	8.0	8.7
16	10.0	11.0	9.8	10.7	9.9	11.2
17	9.2	11.7	9.9	10.8	9.5	12.0
18	9.1	10.6	8.2	10.7	8.7	10.9
19	9.0	10.7	7.4	10.2	8.2	10.7
20	8.3	9.7	6.0	8.9	7.4	9.4
21	11.0	11.5	11.4	12.0	11.0	12.2
22	10.8	10.4	9.0	11.0	9.9	10.9
23	9.9	10.7	10.4	11.4	10.2	11.3
24	7.7	9.7	8.9	10.4	8.2	10.1
25	11.0	9.0		9.8		9.2
26	11.2	11.5	10.2	11.4	10.7	12.0
27	10.1	10.6	9.9	11.1	10.0	11.1
28	9.1	10.6	10.5	11.2	9.8	11.1
29	9.5	11.6	9.8	11.2	9.7	12.0

Table 18. A comparison of the grade level scores in reading for the ninth grade superior students as revealed by the Iowa Every-Pupil Achievement test for years 1955-1958

	Comprehension		Vocabulary		Total scores	
Grade norm	6.9	9.6	6.9	9.6	6.9	9.6
Student	1955	1958	1955	1958	1955	1958
1	7.4	8.8	6.6	9.8	7.0	9.1
2	6.0	10.4	8.7	10.5	7.3	10.7
3	9.2	11.3	7.3	11.0	8.3	11.7
4	10.0	11.1	10.1	9.9	10.2	10.9
5	11.3	12.1	11.5	12.3	11.0	12.6
6	10.1	11.5	8.4	11.1	9.5	12.0
7	10.3	11.1	10.1	11.4	10.5	11.6
8	10.1	11.2	8.6	10.8	9.6	11.6
9	10.8	11.8	10.7	10.8	11.0	12.1
10	10.6	11.6	10.1	11.0	10.9	12.0
11	10.5	11.8	10.7	11.4	11.0	12.4
12	10.0	10.2	9.4	10.4	9.9	10.5
13	10.7	11.3	10.7	11.1	10.8	12.0
14	9.5	11.2	9.2	11.4	8.4	11.6
15	9.2	10.3	6.8	10.2	7.9	10.5
16	8.6	10.6	8.9	11.2	8.8	11.2
17	9.6	11.0	10.7	11.2	10.0	11.4
18	10.0	10.5	9.4	11.1	9.9	11.0
19	9.2	11.1	8.6	10.4	8.9	11.2
20	10.9	11.6	10.4	11.8	11.0	11.6
21	10.5	11.5	11.2	11.4	11.0	12.2
22	11.0	11.5	11.0	11.6	11.0	12.1
23	9.5	11.1	10.1	10.5	9.7	11.1
24	10.3	10.8	8.9	10.7	10.0	11.0
25	10.4	11.4	9.4	10.8	10.5	11.1
26	10.9	11.8	10.4	11.8	11.0	12.4
27	7.3	10.0	6.8	11.1	7.0	10.7

Table 19. A comparison of the grade level scores in work study skills for the eighth grade superior students as revealed by the Iowa Every-Pupil Achievement test for years 1956-1958

	Map reading		Use of reference		Use of index		Use of dictionary		Alphabets and graphs		Total score	
Grade norm	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6
Pupil No.	1956	1958	1956	1958	1956	1958	1956	1958	1956	1958	1956	1958
1	7.5	11.2	7.5	10.0	9.4	9.8	7.8	9.6	10.5	11.0	8.7	10.4
2	10.9	10.9	9.0	10.0	10.0	9.4	5.3	10.0	4.9	11.6	9.0	10.5
3	8.7	9.0	5.8	9.0	9.8	8.2	10.6	11.3	8.6	10.5	9.0	9.7
4	9.4	11.2	9.0	10.0	9.4	9.8	7.4	8.7	7.7	10.2	8.7	10.2
5	11.2	10.9	9.0	11.0	9.1	9.8	9.6	10.0	9.0	9.4	9.8	10.2
6	7.0	8.7	5.1	10.4	8.2	9.1	10.0	9.6	7.0	8.6	7.6	9.3
7	10.3	10.9	6.5	9.5	8.2	10.0	7.8	7.4	8.6	9.8	8.6	9.7
8	7.0	10.9	7.5	8.0	7.5	8.5	10.0	10.6	7.7	11.3	7.9	10.0
9	6.7	11.4	6.5	8.0	7.9	9.6	10.6	11.6	6.7	10.5	7.6	10.6
10	7.5	9.9	8.5	10.0	7.9	10.2	8.3	10.6	9.0	9.0	8.3	10.0
11	6.7	9.0	8.0	10.0	9.8	10.5	10.0	10.0	9.4	10.2	8.8	10.1
12	6.4	10.3	8.0	8.5	8.2	9.4	6.8	10.0	6.7	8.6	7.1	9.4
13		4.9		5.8		9.1		8.7		8.1		7.2
14	11.1	11.4	9.0	10.4	10.2	11.1	10.6	11.6	9.8	11.6	10.2	11.3
15	7.3	7.3	5.1	11.3	5.6	9.1	8.7	9.6	7.4	8.6	6.8	9.2
16	9.0	8.4	6.5	10.0	10.0	10.2	10.6	10.0	9.8	10.5	9.4	9.9
17	11.2	11.8	8.5	9.0	8.2	9.8	10.0	11.1	8.6	11.3	9.5	11.0
18	7.5	9.0	4.1	9.0	8.2	10.8	8.3	6.8	8.1	10.2	9.6	9.4
19	10.6	11.1	10.0	11.0	9.4	10.5	6.3	10.0	10.2	10.5	9.4	10.8
20	9.0	11.2	5.8	9.5	8.2	8.5	7.8	9.1	6.7	9.4	7.7	9.7

Table 19. (cont.)

	Map reading		Use of reference		Use of index		Use of dictionary		Alphabets and graphs		Total score	
Grade norm	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6
Pupil No.	1956	1958	1956	1958	1956	1958	1956	1958	1956	1958	1956	1958
21	11.4	11.5	11.0	11.6	11.1	11.3	9.1	11.3	10.2	11.0	11.0	11.3
22	8.7	9.9	8.5	7.5	9.1	10.2	10.0	10.0	8.1	9.8	8.9	9.7
23	9.4	10.6	8.5	11.0	10.5	11.1	11.3	11.1	8.3	10.5	9.7	10.9
24	10.6	11.2	8.0	10.7	8.5	9.8	6.8	9.6	8.3	8.6	8.7	10.1
25		8.7		8.0		10.0		9.1		8.3		9.0
26	11.2	11.7	10.7	11.6	10.2	11.1	10.0	11.1	11.0	11.5	10.8	11.3
27	11.2	16.6	6.5	10.4	10.5	10.0	8.3	11.1	10.2	10.2	9.8	10.4
28	10.6	11.4	8.5	11.6	10.0	10.5	10.0	11.6	11.0	10.5	11.0	11.2
29	11.1	11.4	10.0	8.5	11.1	11.6	10.6	11.1	8.1	8.3	10.2	10.6

Table 20. A comparison of the grade level scores in work study skills for the ninth grade superior students as revealed by the Iowa Every-Pupil Achievement test for years 1955-1958

	Map reading		Use of reference		Use of index		Use of dictionary		Alphabets and graphs		Total score	
Grade norm	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6
Pupil No.	1955	1958	1955	1958	1955	1958	1955	1958	1955	1958	1955	1958
1	9.5	11.2	9.0	10.0	6.4	10.5	6.7	11.1	8.3	11.3	8.8	11.0
2	6.5	7.3	6.0	10.7	7.6	8.5	7.8	10.6	6.5	10.2	6.9	9.4
3	10.6	11.2	9.5	10.4	7.6	10.2	8.4	10.6	9.8	10.5	9.8	10.8
4	9.0	10.3	7.5	9.5	8.8	10.5	7.9	10.0	6.0	11.0	7.9	10.3
5	10.3	11.8	9.5	11.3	10.6	10.8	11.9	11.6	10.3	11.8	10.8	11.4
6	7.2	11.7	8.0	10.4	9.5	10.2	10.8	11.6	8.8	10.2	9.0	11.1
7	7.2	11.5	7.3	10.7	9.8	9.8	7.4	9.6	7.5	10.5	8.1	10.8
8	10.6	11.4	6.5	7.5	10.1	11.3	10.8	11.1	10.0	11.0	10.1	10.9
9	10.0	12.1	6.5	9.5	9.7	11.1	10.1	11.1	5.3	11.3	8.3	11.2
10	8.5	9.9	8.0	11.0	9.5	10.8	10.1	11.3	10.7	11.5	9.9	11.0
11	11.1	12.1	9.0	11.0	10.1	11.3	10.8	11.3	10.3	11.8	10.8	11.5
12	8.0	10.9	8.5	10.4	6.4	11.1	7.9	11.1	10.3	9.8	8.4	10.7
13	11.0	11.7	8.5	9.5	7.1	10.0	10.1	10.6	10.0	10.5	10.0	10.8
14	6.5	8.7	6.0	10.7	7.1	10.5	8.4	11.1	9.8	10.5	7.5	10.3
15	7.2	8.7	8.0	8.5	11.4	10.5	8.4	9.6	9.3	10.5	9.3	9.7
16	7.2	11.4	7.5	10.4	9.7	10.8	7.9	11.1	5.7	11.0	8.5	11.1
17	11.2	11.4	9.0	9.0	8.4	10.2	10.8	11.3	10.0	11.0	10.2	10.9
18	9.5	11.4	6.5	9.0	6.4	10.0	7.9	11.1	8.3	11.3	7.8	10.8
19	5.5	11.2	9.0	10.7	7.6	10.8	8.4	10.0	4.2	10.2	6.7	10.8
20	10.9	11.2	9.5	11.3	8.8	11.1	10.8	11.3	5.3	11.3	8.8	11.2

Table 20. (cont.)

	Map reading		Use of reference		Use of index		Use of dictionary		Alphabets and graphs		Total score	
Grade norm	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6
Pupil No.	1955	1958	1955	1958	1955	1958	1955	1958	1955	1958	1955	1958
21	7.2	11.1	9.5	10.7	9.8	10.5	11.4	11.6	8.8	11.8	9.8	11.1
22	8.5	11.2	8.0	11.3	10.1	10.8	8.4	11.6	8.8	10.5	9.3	11.1
23	7.2	11.5	6.5	9.5	8.0	9.8	7.9	10.0	8.3	11.0	7.6	10.7
24	10.0	10.6	7.0	11.3	9.7	10.8	8.9	11.3	7.5	9.8	8.8	10.8
25	11.2	11.5	9.5	11.0	9.5	9.8	7.4	11.6	9.3	11.3	10.1	11.1
26	9.5	11.8	10.0	11.0	10.1	11.1	9.6	11.6	4.4	11.5	8.8	11.3
27	5.5	9.4	7.0	10.5	7.6	9.4	6.3	10.0	8.8	9.8	6.9	9.8

Table 21. A comparison of the grade level scores in basic language skills as revealed by the Iowa Every-Pupil Achievement test for the eighth grade superior students in years 1956-1958

	Punctuation		Capitalization		Usage		Spelling		Total score	
Grade norm	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6
Pupil No.	1956	1958	1956	1958	1956	1958	1956	1958	1956	1958
1	8.6	10.5	8.9	10.2	10.0	10.1	6.8	8.2	8.5	9.9
2	9.8	10.3	9.5	9.8	8.7	10.0	6.8	8.1	8.6	9.5
3	8.5	10.5	7.7	10.2	9.2	11.2	8.1	8.4	8.4	10.2
4	8.6	10.6	9.3	9.3	6.2	9.2	6.9	8.2	7.8	9.4
5	10.3	9.6	8.0	9.1	8.5	8.7	7.5	7.6	8.6	8.7
6	8.3	10.0	8.3	10.5	6.0	9.5	8.4	9.0	7.9	9.8
7	7.3	9.2	8.0	7.7	6.2	6.0	6.4	6.9	7.0	7.6
8	4.6	10.3	9.5	8.9	10.0	10.6	6.2	9.0	7.3	9.9
9	10.4	10.8	8.5	10.2	11.1	11.4	9.7	10.5	10.1	10.8
10	7.8	7.8	5.8	8.9	4.6	7.4	7.5	8.4	6.7	8.2
11	10.8	10.5	10.0	10.5	9.7	10.0	9.4	10.5	10.1	10.4
12	8.8	9.4	8.3	10.0	9.0	10.1	7.1	8.5	8.3	9.6
13	7.8	7.8	4.4	7.4	7.2	10.0	7.5	9.7	6.8	8.8
14	9.8	10.8	9.8	9.3	10.0	10.3	6.8	9.2	9.0	10.2
15		9.6		8.5		8.0		7.5	6.9	8.4
16	8.0	10.9	9.1	9.3	10.0	11.3	8.4	8.4	8.8	10.3
17	9.0	9.0	7.7	9.8	10.0	10.6	6.5	8.7	8.3	9.6
18	7.6	8.3	9.1	9.1	6.2	8.5	5.5	7.1	7.0	8.2
19	6.3	9.8	6.3	7.4	4.8	8.7	6.5	8.0	6.2	8.6
20	8.5	8.6	7.7	8.0	4.2	8.7	5.8	6.4	6.6	7.9

Table 21 (cont.)

	Punctuation		Capitalization		Usage		Spelling		Total score	
Grade norm	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6
Pupil No.	1956	1958	1956	1958	1956	1958	1956	1958	1956	1958
21	8.1	9.2	9.3	10.7	10.1	10.3	8.8	9.7	9.2	10.1
22	8.8	10.5	8.3	10.0	7.0	10.0	9.0	9.0	8.5	10.1
23	10.7	10.6	10.0	10.2	11.1	11.6	9.2	10.1	10.4	10.7
24	7.1	8.5	7.4	8.5	7.7	9.7	5.9	8.1	7.0	8.7
25		10.6		10.5		10.9		8.2	6.9	10.2
26	11.0	10.9	10.0	11.1	10.3	11.3	8.1	9.7	10.2	10.9
27	8.0	8.8	10.4	10.0	4.8	9.5	7.8	9.2	7.8	9.4
28	10.2	10.6	10.2	10.9	9.2	9.9	8.8	9.4	9.7	10.3
29	9.6	10.2	7.7	10.4	6.5	9.0	11.0	9.9	8.5	9.9

Table 22. A comparison of the grade level scores in Basic Language Skills as revealed by the Iowa Every-Pupil Achievement test for the ninth grade superior students in years 1955-1958

	Punctuation		Capitalization		Usage		Spelling		Total score	
Grade norm	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6
Pupil No.	1955	1958	1955	1958	1955	1958	1955	1958	1955	1958
1	9.0	8.6	7.7	10.7	8.2	10.0	6.8	8.5	8.0	9.5
2	9.6	10.7	9.5	10.5	10.0	11.4	9.5	10.5	10.0	10.8
3	6.8	10.3	8.1	9.3	9.8	10.0	6.5	8.2	7.5	9.5
4	7.6	8.5	6.7	9.1	7.6	9.0	7.3	8.7	7.4	8.8
5	10.2	11.1	10.6	11.5	10.1	11.7	10.7	11.3	10.7	11.6
6	10.1	10.9	10.0	10.5	9.8	10.9	9.5	9.9	10.3	10.7
7	7.3	8.5	10.0	10.5	9.0	10.0	8.2	8.4	8.6	9.4
8	10.1	10.5	10.1	10.9	7.3	10.3	10.2	9.7	10.7	10.4
9	5.7	10.5	6.9	10.4	7.8	10.6	7.2	9.2	6.8	10.3
10	10.4	10.8	8.8	10.2	9.8	11.3	9.2	10.1	10.3	10.7
11	10.4	10.9	10.0	10.0	10.0	11.1	8.2	10.7	10.3	10.7
12	10.4	10.6	8.8	9.5	9.4	11.1	8.0	9.2	9.6	10.3
13	7.6	10.5	9.9	10.5	8.2	11.2	8.7	11.0	8.7	10.8
14	8.2	10.0	7.4	9.3	9.4	10.1	6.5	7.5	7.7	9.2
15	8.4	10.4	8.4	10.2	6.8	10.0	6.0	9.2	7.2	10.1
16	8.8	10.4	10.0	11.2	9.4	11.2	9.5	11.0	9.9	10.9
17	10.4	11.0	6.2	11.2	9.6	11.0	7.6	9.4	8.7	11.3
18	10.8	10.5	7.1	10.5	9.0	9.7	7.7	9.7	9.2	10.2
19	5.4	8.3	4.5	6.3	6.4	9.0	6.4	8.2	5.6	8.1
20	10.4	10.8	10.0	11.4	10.1	11.7	9.2	11.3	10.4	11.3

Table 22. (cont.)

	Punctuation		Capitalization		Usage		Spelling		Total score	
Grade norm	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6	6.9	9.6
Pupil No.	1955	1958	1955	1958	1955	1958	1955	1958	1955	1958
21	10.2	10.9	7.1	11.2	10.0	11.4	9.9	11.0	9.9	11.2
22	7.8	10.7	8.1	11.4	7.8	11.4	9.2	10.7	8.4	11.1
23	9.8	10.7	9.9	11.5	10.0	11.0	8.2	8.5	9.8	10.6
24	10.1	10.3	8.4	10.4	7.6	10.3	6.9	9.2	8.4	10.2
25	6.4	9.8	6.6	8.0	6.8	9.9	8.0	8.1	7.0	9.0
26	9.8	10.7	10.4	11.4	10.1	11.7	9.2	10.5	10.5	11.1
27	7.3	9.4	7.4	11.2	10.4	10.6	5.6	8.4	7.4	10.0

Table 23. A comparison of the grade level scores in Basic Arithmetic Skills as revealed by the Iowa Every-Pupil Achievement test for eighth grade superior students for years 1956-1958

	Fundamental knowledge		Fundamental operations		Problems		Total score	
Grade norm	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6
Pupil No.	1956	1958	1956	1958	1956	1958	1956	1958
1	9.7	9.9	7.8	9.2	11.8	9.8	10.2	10.2
2	8.9	9.7	7.1	8.4	8.8	9.0	8.1	9.3
3	8.7	10.4	7.8	9.8	8.5	9.8	8.3	11.0
4	9.9	10.0	7.2	10.0	9.3	9.3	8.7	10.4
5	10.1	10.1	7.4	8.0	9.5	10.0	9.1	9.7
6	6.6	9.7	6.6	8.1	9.3	9.0	7.3	9.1
7	8.0	9.1	6.6	7.5	10.5	9.0	8.0	8.5
8	9.5	9.9	7.7	9.5	8.1	9.3	8.4	10.0
9	8.7	8.7	7.4	8.1	8.3	8.8	8.0	8.6
10	6.9	8.9	6.5	8.0	8.8	7.5	7.2	8.1
11	8.5	7.8	6.7	7.7	8.8	9.3	7.7	8.1
12	5.9	7.5	7.2	7.2	7.8	7.2	6.7	7.3
13	8.0	8.0	6.7	6.7	6.0	6.9		7.2
14	10.2	11.5	7.8	11.1	10.9	11.2	10.2	11.5
15	7.3	7.8	6.8	7.0	8.3	6.9	7.1	7.2
16	8.5	9.7	7.5	7.7	9.0	8.5	8.2	8.6
17	6.5	10.5	6.1	8.7	7.4	8.3	6.4	9.7
18	8.5	9.7	7.0	8.4	9.5	9.0	8.1	9.3
19	8.0	10.1	6.8	8.2	10.1	9.3	8.0	9.5
20	8.0	9.3	6.3	8.0	8.5	9.8	7.9	9.1

Table 23. (cont.)

	Fundamental knowledge		Fundamental operations		Problems		Total score	
Grade norm	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6
Pupil No.	1956	1958	1956	1958	1956	1958	1956	1958
21	10.4	11.5	9.0	9.8	10.2	10.5	10.9	11.3
22	7.3	7.8	7.5	7.4	8.9	9.3	7.6	8.0
23	8.5	10.4	8.2	9.5	10.0	10.0	9.0	11.0
24	9.4	8.9	6.8	7.5	8.6	9.5	8.0	8.6
25		9.1		8.0		8.3	6.8	8.5
26	10.0	10.8	8.2	10.3	11.8	10.9	10.6	11.4
27	10.5	10.4	7.8	8.7	10.5	8.3	10.3	9.5
28	10.1	11.1	9.0	10.0	8.8	10.9	9.7	11.4
29	8.0	9.3	7.7	7.2	8.9	8.8	8.1	8.3

Table 24. A comparison of the grade level scores in Basic Arithmetic Skills as revealed by the Iowa Every-Pupil Achievement Test for ninth grade superior students for years 1955-1958

	Fundamental knowledge		Fundamental operations		Problems		Total score	
Grade norm	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6
Pupil No.	1955	1958	1955	1958	1955	1958	1955	1958
1	8.9	10.8	8.4	10.3	9.3	10.9	9.0	11.4
2	7.3	9.3	7.8	7.1	7.8	8.5	7.3	8.1
3	10.1	9.7	6.4	8.1	8.6	9.0	8.0	9.1
4	6.5	9.7	6.0	7.5	5.2	9.8	6.0	9.0
5	9.5	12.5	8.2	11.1	9.8	11.8	9.3	11.7
6	8.7	10.8	9.7	9.5	8.9	10.5	9.2	11.2
7	10.1	11.1	6.6	8.4	10.0	9.3	8.7	10.4
8	10.5	10.2	8.7	9.5	9.3	9.5	10.3	10.5
9	9.7	11.5	9.1	9.8	9.7	10.5	9.6	11.3
10	9.6	9.9	7.7	10.0	10.0	10.5	9.5	11.0
11	10.1	11.5	7.7	9.8	10.0	9.3	9.7	11.1
12	8.5	9.1	8.1	9.0	9.3	9.0	8.6	9.2
13	10.5	10.5	8.4	10.0	8.9	10.2	10.0	11.2
14	9.1	10.5	8.1	9.5	9.3	9.8	8.9	11.0
15	8.7	9.1	7.5	7.8	8.6	8.5	8.2	8.5
16	8.9	10.4	8.0	9.8	9.3	10.9	8.9	11.2
17	10.1	10.8	7.5	9.5	8.9	10.2	9.2	11.1
18	9.7	10.2	8.0	8.2	9.3	10.5	9.1	10.4
19	8.4	10.4	6.3	7.7	8.6	8.1	7.4	8.9
20	8.4	11.1	9.7	9.8	8.6	10.2	8.9	11.2

Table 24. (cont.)

	Fundamental knowledge		Fundamental operations		Problems		Total score	
Grade norm	6.9	8.6	6.9	8.6	6.9	8.6	6.9	8.6
Pupil No.	1955	1958	1955	1958	1955	1958	1955	1958
21	8.9	10.4	8.4	10.3	9.5	10.5	9.1	11.1
22	7.2	9.7	6.9	10.0	9.0	10.0	7.5	10.5
23	8.7	10.1	8.7	9.2	9.0	9.8	8.2	10.4
24	8.4	9.5	7.4	8.0	9.3	10.2	8.2	9.3
25	9.2	10.0	6.7	9.0	8.3	12.2	7.7	10.4
26	10.3	12.3	9.1	11.1	9.3	10.2	10.3	11.5
27	6.9	9.1	7.3	8.7	5.7	8.8	6.7	9.0

NINTH GRADE REGISTRATION INSTRUCTIONS
for 1957-58

To assist students in their registration, the following arrangement of subjects and credits is presented:

REQUIRED SUBJECTS

Subject	Credit	Remarks
Language Arts	1 - Consists of World Geography and driver education. .50 Alternating days.	

ELECTIVE SUBJECTS

Subject	Credit	Remarks

Please choose one of the following: Students desiring to take more than two of these subjects must consult with the ninth grade counselor.

Biology	1	
Algebra	1	
Latin	1	

If you choose one of the above group, elect three of the subjects below; if you choose two of the above group, elect two from the subjects below; if you choose all three of the above group, choose only one of the subjects below:

Ind. Arts (boys)	1	
Homemaking (girls)	1	
Speech	1	
Band	1	
Orchestra	1	
Library	--	No credit in most cases, but not to exceed .50, as determined by the librarian.
Old Testament	1	Subject to signed request by parents.

Please choose one of the following: Students desiring more than one of these subjects, please consult the counselor.

Vocal music (boys)	.50	
Vocal music (girls)	.50	
Art	.50	
Crafts	.50	
Photography (club basis)	Credit to be determined by instructor, but not to exceed .50. Submit application to the instructor.	

Journalism (club basis)	Credit to be determined by instructor at end of year. If you choose journalism club, do not elect library. Submit application to instructor.
Office Work	.50 - Limited to 28 students by application to the secretary.
Library Science	.50 - Limited to 28 students by application to the librarian.

CHECKLIST FOR ASCERTAINING THE EXTRACURRICULAR ACTIVITIES OF GIFTED STUDENTS

Name _____ Grade _____

Check the extra-curricular activities you are participating in during the school year 1957-58.

1. Student body officer
2. Class officer
3. Section officer
4. Projectionist
5. Basketball
6. Athletic managers
7. Emerald staff member
8. Operetta
   a. Student managers
   b. Stage crew
   c. Leads
   d. Chorus
9. Assemblies
   a. Student managers
   b. Stage crew
   c. Talent participant
10. Special vocal group
    a. Choir
    b. Special chorus group
    c. Clinic
11. Contests
    a. Essays
    b. Poetry
12. Dramatics
    a. Student managers
    b. Participants
13. Office helpers
14. Library helpers
15. Safety patrol
16. Yearbook editors
17. School art committee
18. Electronic Club
19. Nature Club
20. Astronomy club
21. Photography club
22. P. A. System announcers
23. Intramurals
24. Skating lessons
25. Music lessons
26. Dancing lessons
27. Boy Scouts
28. Girl Scouts
29. Newspaper route
30. Other employment
31. Community or church
    a. Drama
    b. Athletic groups
    c. Vocal
32. Leadership positions (priesthood, organists, committee chairman, etc.)